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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/508,784

11/19/2004

Ayaaki Ishizaki

2004-1526A

8456

513

7590

06/28/2006

WENDEROTH, LIND & PONACK, L.L.P.

2033 K STREET N. W.

SUITE 800

WASHINGTON, DC 20006-1021

EXAMINER

WARE, DEBORAH K

ART UNIT

PAPER NUMBER

1651

DATE MAILED: 06/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/508,784	<b>Applicant(s)</b> ISHIZAKI ET AL	
	<b>Examiner</b> Deborah K. Ware	<b>Art Unit</b> 1651	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 5-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 5-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on \_\_\_\_ is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____.  |

### **DETAILED ACTION**

Claims 5-13 are presented for consideration on the merits.

#### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on June 13, 2006, has been entered.

#### ***Response to Amendment***

The amendment filed June 13, 2006, has been received and entered.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

#### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation

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under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 5-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 58-98085 in view of JP 7-177876, both previously cited of record.

Claims are drawn to a method for continuous culture of anaerobic microorganisms while controlling glucose concentration of the culture by feeding the culture at a rate equal to consumption rate.

JP 58-98085 teaches a method for continuous culture of microorganisms wherein it is to feed the culture at a rate equal to consumption rate is discussed and recognized, see page 2, (1), all lines. Also note page 3, second full paragraph, all lines. Alkaline conditions and pH regulation is discussed also.

JP 7-177876 teaches a predetermined lower limit and upper limit of pH and using it to determine glucose quantity to be supplied, based on the predetermined pH limits and pressure. Note pages 15-16, lines 1-16 and lines 1-10, respectively.

The claims differ from the cited disclosure in that anaerobic microorganisms and predetermined pH at a lower and upper limits are not clearly discussed.

It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to carry out the claimed method under alternate alkaline conditions by regulating pH at predetermined upper and lower limits and controlling substrate supply rate based on the amount of feed intake under aerobic and anaerobic

conditions because both of the JP documents suggest that such conditions may be employed under aerobic and anaerobic conditions. One of skill would have been motivated to modify the JP document to provide for a continuous culture methodology while controlling pH at predetermined upper and lower limits for anaerobic microorganisms. The pH conditions and addition of supplements for aiding control of parameters is clearly within the skill of an ordinary artisan. Continuous culture of microorganisms is well known in the art and the claimed subject matter is deemed prima facie obvious over the cited prior art.

### ***Response to Arguments***

Applicant's arguments filed June 13, 2006, have been fully considered but they are not persuasive. The argument that predetermined lower limit pH and upper limit pH are not disclosed is noted, however, an additional reference has been applied to address these newly added features. Further, to produce ethanol or polylactic acid is clearly within the skill of an artisan and dependent upon the organism source used during the fermentation. Many organism are well known in the art to produce ethanol and/or polylactic acid. For example, *Lactobacillus* species is well known producer of these compounds. Thus, to select this microorganism for fermentation is an obvious modification of the cited prior art. In addition, to obtain 95% productivity of glucose concentration would have clearly led the ordinary artisan to derive the formulas of claims 12 and 13 and hence these formulas are based on conditions which is well within the ordinary artisan's capability to manipulate and control. Therefore, in light of the new rejection herein the claims are rendered prima facie obvious.

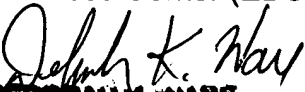
All claims fail to be patentably distinguishable over the state of the art discussed above. Therefore, the claims are properly rejected.

No claims are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Deborah K. Ware whose telephone number is 571-272-0924. The examiner can normally be reached on 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mike Wityshyn can be reached on 571-272-0926. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
**DEBORAH K. WARE**  
**PATENT EXAMINER**

Deborah K. Ware  
June 24, 2006